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ABSTRACT

One in a series of core instructional materials for apprentices to use during the first or second years of apprentice-related subjects training, this booklet provides an introduction to apprenticeship training programs. The first section consists of an outline of the content and scope of the core materials as well as a self-assessment pretest. Covered in the two instructional chapters included in the booklet are the nature and importance of apprenticeship training and the roles and responsibilities of the parties involved in apprenticeship training programs. Each chapter contains an overview; an introduction and objectives; principles, examples, and applications; additional information; and self-test exercises. Appended to the booklet are answers to the self-assessment pretest, answers to the self-test exercises, a posttest, and answers to the posttest. (MN)

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INTRODUCTION TO APPRENTICESHIP

Apprenticeship Related Training Module

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1. How To Use This Booklet

What Is This Series About?

Introduction to Apprenticeship is one of ten booklets written as core instructional materials for apprentices to use during the first or second years of apprenticeship related subjects training. Nine of the booklets are about critical subject areas for apprentices, as determined by a national group of experts on apprenticeship and training. The tenth booklet introduces the other booklets and explains how to use the materials in the instructional setting.

The materials are designed to be used with other related subjects instructional materials. They can be employed in one of two ways: (1) the materials can be used as the total instructional materials package for some trades, in subjects such as basic science, measurement, and working in organizations; or (2) the, can be used as supplementary, introductory or practice materials in subjects such as basic mathematics, safety and an introduction to apprenticeship.

The booklets are written in a self-instructional, self-paced format. They can be used either in instructor supervised or independent study arrangements. *Each booklet and each chapter is written as a distinct unit and is addressed to a single major topic.* This means that you or your instructor can select individual booklets or chapters without necessarily using every booklet or every chapter within a booklet.

The booklets emphasize application of facts, concepts and skills. Material is presented by means of written information, visual illustration and applied example. The discussion for most major topics also includes an application section that requires you as a learner to demonstrate what you are learning. In addition, each chapter contains a section entitled Self-Test Exercises that contains questions, problems and exercises for you to work through as a final application of the knowledge or skill and to show that you have mastered the materials.

The titles of the booklets in the core materials are:

1. *A Basic Core Curriculum*
2. *Introduction to Apprenticeship*
3. *Basic Mathematics*
4. *Basic Safety I*
5. *Basic Safety II*
6. *Basic Measurement*
7. *Sketching, Drawing and Blueprint Reading*
8. *Basic Physical Science*
9. *Working in Organizations*
10. *Interpersonal Skills and Communication*

What Is This Booklet About?

Apprenticeship is the oldest know training system, having begun before the dawn of written history. In some basic ways -- such as the emphasis on quality and productivity, the indenture of a trainee in a selected trade for a substantial period of time, the opportunity to learn while doing and working, and the compensation of the apprentice for the trainees' work -- the system continues to grow from roots of its original structure. This booklet is

about apprenticeship as a training system, and specifically the program in which you are indentured as an apprentice. To take full advantage of the opportunities of the training system as well as to be certain that you meet all the responsiblities associated with participation, you need to understand the components of the apprentice system, participant responsibilities, and events to expect. The specific topics covered in this booklet are:

1. The Apprenticeship Training Program
2. Rights and Responsiblities

What Must I Do To Complete My Work In This Booklet?

Working your way through this booklet will require you to read the text, to answer the questions, to perform the exercises and to complete the pretest and posttest instruments. Expect to spend about two hours working through the materials. The only resources you need to complete your work in this booklet are: (1) a copy of the booklet; (2) a pencil or pen; and (3) about two hours of time.

The materials are written in a self-instructional, programmed format. You may work through the text, examples, and questions at your own pace and leisure. You need not complete your work in the booklet at one sitting.

Each chapter in the booklet is devoted to a single skill, competency or unit of knowledge. The general format of the chapters is similar, with the following parts.

1. A *chapter overview* containing all the necessary information you need to know in order to work through the chapter.
2. An *introduction* describing the knowledge or skill and the instructional objectives for the information.
3. *Principles, examples, and applications* presenting and explaining the content as well as offering you practice opportunities to apply the information.
4. Additional *sources of information*.
5. A *self-test exercise* for applying the information under consideration.

This booklet concludes with an appendix that contains the answers to the pretest, the self-test exercises from each chapter and the posttest.

How Much Do I Know About The Subject As I Begin?

Begin your work in *Introduction To Apprenticeship* by completing the self-assessment pretest that follows. When you have completed the pretest as directed in the assessment instructions and have finished reading the other material in this introductory section, continue your work in this booklet, one chapter at a time. Begin with Chapter 2.

In each chapter, do the following:

1. Read:
   - Background information
   - Steps and procedures for performing skilled activities and explanations of major points and ideas
   - Examples illustrating use of information, performance or skills, or application of material
2. Consider the questions and exercises in the text. Work the questions and check your answers.
3. When you believe that you have mastered the material, take the Self-Test at the end of the chapter.

4. Check your answers with those provided in the Appendix at the end of the booklet. If you achieve at least the minimum acceptable score, move to the next chapter. If your score is below acceptable levels, work through the chapter again.

Self-Assessment Pretest

Directions: *The self-assessment will help you focus on specific strengths and limitations of your apprenticeship knowledge and skills. Select the best answer for each question and record it in the appropriate space. After you have worked through the pretest, check your answers with those in the Appendix. Then proceed with Chapters 2 and 3 of this booklet.*

1. About when in history did apprenticeship begin? Answer: _____

2. Name two ways apprenticeship is unique as a training system:

   a. _____

   b. _____

3. Name three benefits of apprenticeship to program sponsors.

   a. _____

   b. _____

   c. _____

4. What is the Fitzgerald Act? Answer: _____

5. Approximately how many trades are apprenticable? Answer: _____

6. What are your most critical four responsiblities as an apprentice?

   a. _____

   b. _____

   c. _____

   d. _____

7. What is an apprenticeship agreement? Answer: _____

8. What is meant by wage schedule? Answer: _____

2. The Apprenticeship Training Program

Chapter Overview

Purpose:	To insure that each apprentice has a working knowledge of the history, current nature and compcnents of typical apprenticeship programs.
Preassessment Score:	Regardless of your preassessement score, work through this chapter.
Prerequisites:	Chapter 1 of this module.
Resources:	Time--At least 30 minutes to completion. Materials--Pencil.
Performance Statement:	At the conclusion of you work in this unit, you will identify key elements and components of typical apprenticeship programs.
Performance Measure:	A ten-minute, paper-and-pencil Posttest, to be taken after completing the entire booklet.
Standards:	To be successful, you must answer at least 80 percent of the Posttest items.
Activities:	1. Read text, examples and illustrations and commit information to memory. 2. Work questions, examples and problems. 3. Complete and check the Self-test Exercises and Posttest.

Introduction And Objectives

Apprenticeship is the oldest training system on earth. For centuries novice workers have learned skilled trades and crafts through on-the-job instruction and demonstration in combination with off-the-job instruction in subjects related to and necessary for competence on the job. Through time, apprenticeship as a training process has been refined and has become more or less systematized at national, state and industry levels. It is important that you, as an apprentice and as a journeyman in a trade in which apprenticeship is important, have knowledge of both the history and the organization, structure and operation of current programs. When you have completed your work in this unit of materials you will demonstrate your knowledge of these materials by being able to:

1. Describe significant events in the history of apprenticeship as a training system.
2. Describe the general organization and operation of apprenticeship training programs.

Principles, Examples and Applications

What is Apprenticeship?

Apprenticeship is a unique, voluntary training system through which individuals acquire trade and craft skills and knowledge. Training combines daily on the job instruction in manipulative skills with periodic classroom instruction in technical subjects related to work requirements. The training design provides for learning all required *practical* and *theoretical* skills and knowledges for the chosen skilled occupation. Practical aspects of work are mastered on the job as apprentices are rotated through all phases of their particular occupations. Theoretical aspects of work are mastered during related subjects instruction in the classroom. Related instruction continues throughout the apprenticeship term and provides an opportunity to consider, in depth, the underlying principles of job activities. This arrangement of on-the-job and classroom instruction is a standard part of typical apprenticeship indenturing agreements. It ensures the individual's employability and guarantees competent workers for industry by providing for learning the complete range of skills and knowledge during training.

The apprenticeship system stipulates requirements about the time period for training, pay, and performance expectations. For example, the required length of time for training ranges from one to six years, depending upon the specific trade. The majority of programs require three to four years of work and study to complete an apprenticeship. Since apprentices are full-time employees of the company in which they are apprenticed, the system includes a pay schedule for apprentices while they train. Usually the wage scale begins at about half of a journeyman's rate and increases progressively with satisfactory completion of work assignments and training segments. Near the end of the apprenticeship term, pay ranges from 90 to 95 percent of the full journeyman rate. The system also requires a formal written agreement between the apprentice and the program sponsor in which is set forth expectations, duties and obligations of each party for the apprenticeship term. Among items typically incorporated into the agremeent are the provisions for related instruction, overtime regulations, minimum wage schedule for each period in the apprenticeship term, and approximate time schedule for training in different aspects of the occupation.

Why is Apprenticeship Important?

For centuries apprenticeship has been a preferred method of training. Thousands of workers have been trained to perform effectively in high-skill and technical occupations to the advantage of both the individuals and program sponsors. For the apprentice the advantages for participating in the training system include the following:

1. Gaining varied skills through instruction and experience in all major aspects of a trade or craft;
2. Learning to work in harmony with different types of trades and crafts people in a work setting;
3. Learning to work within a company or work organization;
4. Learning about each skilled worker's part in the productivity plan of the industry and/or business;
5. Receiving a wage with regular increases while learning a skilled craft or trade;
6. Increasing employability and economic security; and
7. Receiving recognition as a skilled worker, from peers, journeymen, employers and union members.

For the program sponsor, the advantages for participating in the apprenticeship training system include the following:

1. Developing and ensuring a supply of trained, skilled and knowledgeable workers and supervisors for their operations;
2. Increasing worker productivity, overall skill levels and versatility;
3. Lessening the need for supervision of employees by developing initiative, pride in craftsmanship, speed and accuracy in work;
4. Continuing to attract a constant flow of capable men and women into the trade or craft; and
5. Controlling, to some degree the numbers of people entering trades, the minimum wage rates paid to workers, and the minimum skill levels.

The benefits of apprenticeship outweigh the costs. Still, you must be aware of the costs because they affect you. It will take time to learn your trade. You will learn and practice and practice. You will spend time in related studies classes. Sometimes, on the job and in class you will spend relatively large amounts of time doing simple, boring chores. Further, you will receive a relatively low wage when you start out. Each of these items is a cost you must bear.

The sponsor also incurs costs associated with your apprenticeship. For example, the sponsor must pay the wages of your on-the-job and related subjects instructors and supervisors, both for production time and for instruction time. Further, the sponsor must accept your relatively lower productity during your period of training. Additionally, your sponsor must keep records, test, review and certify your training. Sponsors also must make available curriculum, instructional materials and time on the equipment in order to insure your proper training.

Which Occupations Are Apprenticeable?

Apprenticeship is a training system for learning any of the more than 700 apprenticeable trades or crafts. Included in the system are occupations such as machinist, plumber, fire medic, X-ray technician, die maker, water treatment plant operator, electrician, millwright and printer. Apprenticeable occupations generally are defined by the following:

a. Skills are primarily learned through a combination of on-the-job training supplemented by related technical instruction.
b. Training requires at least 2,000 hours of work experience plus related instruction.
c. The occupation involves manual, mechanical or technical skills and is practiced industry-wide as a recognizable trade or craft.
d. Training for the occupation involves the development of a body of skills sufficiently well defined to be applicable throughout an industry.
e. The occupation does not primarily involve only selling, managerial, clerical or professional activities.

Who Is Involved with Apprenticeship Programs?

The two parties most directly involved with apprenticeship programs are individual apprentices and program sponsors. Apprentices are adult men and women who are full-time members of the work force while training through work and study to beome even more proficient craftworkers. As apprentices, they are among a select

group of workers. To be chosen as apprentices, applicants must be able physically to perform the work of the craft or trade, must meet minimum age requirements and usually must satisfy the program sponsor by test, interview and records that, as apprentices, they will profit from the training experience. For most trades and crafts, applicants must be high school graduates or must have earned high school equivalency certificates. Formal selection procedures are established by the sponsor and take into account equal opportunity provisions of federal and state law.

The program sponsor plans, administers and pays for the program. Sponsors can be individual employers, groups of employers or combinations of employers and unions. Combinations of equal number of employers and unions are called joint labor management apprenticeship committees. The term often is shortened to Joint Apprenticeship Committee (JAC) or Joint Apprenticeship and Training Committee (JATC). The latter term, JATC, applies if the committee administers a journeyman training program to upgrade craftwork skills in addition to directing an apprenticeship program.

The sponsor sets policy concerning the conduct of the program. Jurisdiction includes selecting and indenturing apprentices, supervising training, establishing training curriculum and certifying apprentices as journeymen upon completion of the program.

Although most directly involved in the administration of apprenticeship programs, apprentices, local apprenticeship committees and corporate directors of training are not the only entities involved with an apprenticeship program. Other involved groups and organizations include the Bureau of Apprenticeship and Training (BAT) of the U.S. Department of Labor, the Federal Committee on Apprenticeship (FCA), the State and Territorial Apprenticeship Agencies (SACS) and the National Joint Apprenticeship and Training Committees.

The federal role, as authorized by the National Apprenticeship Act of 1937, is to promote labor standards that safeguard the welfare of apprentices and to guide, improve and assist apprenticeship. BAT maintains a field office in every state and works with employers, unions and state apprenticeship agencies to develop programs and devise ways to provide better training. The Bureau approves and registers programs, offers technical assistance to employers on training and searches out new ways to expand apprenticeship. BAT also encourages labor and management to determine future needs for journeymen as a basis for establishing apprenticeship programs. Further it encourages development of adequate educational facilities and programs, promotes equal opportunity in the selection and employment of apprentices, conducts/sponsors studies of the system designed to improve its efficiency, distributes information related to apprenticeship and stimulates active support of effective programs among all pertinent organizations.

The federal role is enhanced by the activity of the Federal Committee on Apprenticeship, one of the oldest public advisory committees in the federal government. The Committee is composed of 25 persons appointed by the Secretary of Labor. They represent management, labor and the public. FCA advises the Secretary of Labor on concerns such as expanding apprenticeship and journeymen training in all sectors of the economy, increasing the effectiveness of equal opportunity programs, promoting labor standards to protect apprentices, improving relations/coordination with other training systems, identifying research needs and strengthening cooperative relationships with state apprentices and training agencies.

State and territorial apprenticeship agencies have been established in 32 states and territories. Ideally, each receives policy guidance from an apprenticeship council composed of employer, labor and public representatives. Councils devise and oversee procedures for recognizing apprenticeship programs in the states. A number of SACs have staff to help employers and unions develop, expand and improve apprenticeship programs. Their work is carried on in cooperation with BAT. Each uses the BAT standards as the minimums for establishing programs but may add other state requirements in addition to the BAT specification.

National Joint Apprenticeship and Training Committees operate in a number of trades. They are composed of representatives of national employer associations and international labor organizations. These committees develop standards for their trades that serve as guidelines for local apprenticeship programs. Also, the committees encourage local affiliates to develop and conduct programs and provide them with information on need for apprenticeship, materials, changes in technologies and training methods.

Local apprenticeship programs may or may not be registered Registration is formal recognition of a pro-

gram by a state apprenticeship agency or by the Federal Bureau of Apprenticeship and Training. Programs can be registered upon request of the sponsors when certain basic criteria are met. The benefits of registration include:

1. Assurance of a quality standardized training component;
2. Assurance of a progressively increasing wage scale;
3. Assurance of a specified term of training with clearly demarcated points for a record of assessment, promotion, and increasing breadth and depth of training;
4. Assurances of non-discrimination;
5. Assurances of a probationary peirod without penalty;
6. Greater job opportunities and security; and
7. Certification upon completion.

What is the General History of Apprenticeship in the United States?*

Always people have transferred skills from one generation to another through some form of apprenticeship. Four thousand years ago, the Babylonian Code of Hammurabi provided that artisans teach their crafts to youth. The records of Egypt, Greece, and Rome from earliest times reveal that skills were passed on in this fashion.

When youth in olden days achieved the status of craft workers, they became important members of society. Their prestige in England centuries ago is reflected in a dialog from the *Red Book of Hergest*, a 14th-century Welsh Bardic manuscript:

"Open the door!"

"I will not open it."!

"Wherefore not?"

"The knife is in the meat, and the drink is in the horn, and there is revelry in Arthur's Hall; and none may enter therein but the son of a King of a privileged country, or *a craftsman bringing his craft*."

When America was settled, craftsworkers coming to the New World from England and other European countries brought with them the practice of indenture and the system of master-apprentice relationships. Indenture derived its name from the English practice of tearing indentions or notches in duplicate copies of apprenticeship forms. This uneven edge identified the copy retained by the apprentice as a valid copy of the form retained by the master.

In those days, both the original and the copy of the indenture were signed by the master and the parent or guardian of the apprentice. Most of the apprentices were 14 years of age or younger. By comparison, today most apprentices begin training between the ages of 18 and 24. The modern apprenticeship agreement is signed by the employer; by a representative of a joint management-labor apprenticeship committee, or both; and by the apprentice. If the apprentice is a minor, the parent or guardian also signs.

Today's apprenticeships are keeping alive a knowledge of many crafts and skills that in other times were passed on largely by family tradition. Fathers taught their sons the crafts in generation after generation. American patriot Paul Revere was a member of a famous family of silversmiths. Paul and his younger brother, Thomas, learned their craft from their father. In turn, two of Paul's sons served apprenticeships in the family' Boston shop.

Paul Revere's skill in crafting silver can still be appreciated today. As many as 500 of his pieces are known to exist. During his lifetime, he produced a great quantity of church silver, flagons, christening bowls, tankards, cups, spoons, tea sets, and trays.

He also became a coppersmith and cast church bells that still may be heard in New England cities. He

*From *Apprenticeship: Past and Present*. Washington, D.C.: U.S. Department of Labor, 1982.

founded the American copper and brass industry when, in 1802 at the age of 67, he set up in Canton, Mass., the first copper rolling mill. This mill remained in operation under its original name for 100 years. Later the business became part of the present-day Revere Copper and Brass Co. In many of the plants of this company, apprenticeship programs in the metalworking trades are conducted today.

A famous contemporary of Paul Revere's, Benjamin Franklin, was indentured in 1718 at the age of 12 to his elder brother, James. Their father paid James 10 pounds to teach the printing art to Benjamin and to pay for Benjamin's food, lodging, and other "necessaries."

The indenture provisions were especially generous for those days. They specified that Benjamin was to receive a journeyman's wage in the last year of his apprenticeship just before he became 21 years old -- if he remained on the job that long. Moreover, when the precocious Benjamin was 15 years old, he arranged for a cash payment for his food. This was a big financial advantage to him because he had become a vegetarian and found vegetables and fruit cheaper than meat. Out of his savings he was able to buy books. He says in his autobiography that he was frequently able to subsist with only a "bisket and a stick of break, a handful of raisins, a tart from the pastry cook's, and a glass of water."

Benjamin quit, however, before he completed the 9 years of apprenticeship specified in the indenture because of quarrels with James who, he says, sometimes beat him. He adds, "Thinking my apprenticeship very tedious, I was continuously wishing for some opportunity of shortening it."

Printing was also the trade of Daniel S. Glackens, who became father and grandfather to noted craft workers. Glackens published the newspaper, *The Lafayette*, in the 1820's in Pottstown, Pa. One of his sons, Henry O. Glackens, became a craft worker in the shops of the Pennsylvania Railroad after serving an apprenticeship and later was a manufacturer and business executive. Another son, William J., was engaged in art plastering and worked on the Capitol Building in Washington, D.C. Among the early printer's grandchildren were William J. Glackens, a celebrated artist, and Louis Glackens, cartoonist and illustrator for the magazine, *Puck*.

In colonial New England, many youngsters less than 10 years old whose parents could not support them were indentured to masters who agreed to teach them a trade. This practice was legalized by the poor laws. The indenture quoted below, for example, required a youthful apprentice in 1676 to serve more than 12 years to learn masonry. As apprentices then were usually bound to masters until they were 21 years old, apprentice Nathan Knight apparently began his service when he was about 8½ years. These were the conditions of his servitude:

> This Indenture witnesseth that I, Nathan Knight ... have put myself apprentice to Samuel Whidden, of Portsmouth, in the county of Portsmouth, mason, and bound after the manner of an apprenticeship with him, to serve and abide the full space and term of twelve years and five months ... during which time the said apprentice his said master faithfully shall serve ... He shall not ... contract matrimony within the said time. The goods of his said master, he shall not spend or lend. He shall not play cards, or dice, or any other unlawful game, whereby his said master may have damage in his own goods, or others, taverns, he shall not haunt, nor from his master's business absent himself by day or by night, but in all things shall behave himself as a faithful apprentice ought to do. And the said master his said apprentice shall teach and instruct, or cause to be taught and instructed in the art and mystery as mason; finding unto his said apprentice during the said time meat, drink, washing, lodging, and apparel, fitting an apprentice, teaching him to read, and allowing him three months towards the latter end of his time to go to school to write, and also double apparel at the end of said time ...

Even though this apprentice did not get a chance to go to school until he was about 20 years old, his master showed a sense of community and civic responsibility, for schooling of some sort -- even though limited to reading and writing -- was desperately needed in the Colonies. Although the school instruction for an apprentice at that time was inadequate, it may be considered another link with present-day apprenticeship, which provides technical classroom instruction to supplement on-the-job training.

One chapter in the history of apprenticeship caused a stigma difficult to outlive— the exploitation of poor men, women, and children as indentured servants who were given little or no opportunity to learn a trade. It was a system that can hardly be classified as apprenticeship.

The practice of indenturing servants, some of them former prisoners imported from abroad, took place largely in the Southern States, where labor was needed on the plantations. Workers paid off the cost of their transportation by serving as so-called apprentices. Tempted into the traffic in these workers were the ship's captains and bartering agents who profited by it. This exploitation of unfortunates was finally erased after public sentiment brought about regulative acts.

Very little is recorded on exactly how apprentices were trained in the early days. But whether or not craftsworkers acquired their skills in training here or abroad or through their own devices, they apprently deserved the title. They were amazingly skillful, judging for example by the excellent condition of many of the buildings erected in this country more than 150 years ago.

These traditions are still carried on. A contemporary columnist, Rudolph Elie of the *Boston Hearld*, vividly set forth his observations of the craftsworker's skill in an article written in 1954. He described it as follows:

> For the last half hour, I have been standing, mouth ajar, down on Arch Street watching them lay bricks in the St. Anthony Shrine Now 'abuilding,' and I have come to the conclusion that laying bricks is a fine and noble and fascinating art. It must be a very ancient art ... and those fellows down on Arch Street are the inheritors of an old tradition. And, curiously enough, to watch them work you get the notion that they are somehow aware of it...
>
> The bricklayer has a sort of rhythm and grace and fluency in his work...Apparently they can execute the most intricate designs in brick, through there certainly seemed to be no blue-prints in evidence.

How Has Apprenticeship Changed As It Has Grown In The United States?*

With the expansion of industry following the industrial revolution, the apprenticeship system was revolutionized to apply to the new machine age. The early system of "domestic apprenticeship," in which the apprentice lived with a master and was dependent upon the master for food and clothing as well as shelter, disappeared.

Compensation was changed by employers to the payment of wages that were, although insignificant compared with today's wages, graduated in accordance with a predetermined scale. The term "master," however, was continued in some trades, and "master machinist" and "master plumber" are still familiar terms.

The effect of the modern system of division of function began to make itself felt in the first half of the 19th century. In many trades, craftsworkers who in the past had engaged their apprentices for 5 years to teach them all aspects of the trade began to teach them only one part of the job that could be learned in a few months.

Apprenticeship systems, in keeping with the new era, were gradually developed in the growing industries, at first in the iron foundries and shipbuilding yards, and later in machinery and electrical equipment plants, government arsenals, navy yards, and printing shops.

Not until the latter part of the 19th century were any apprenticeship systems begun that were at all comparable with those of today. But the number of plants in which apprentices were trained was limited and the training was, for the most part, somewhat sketchy when measured by modern standards. The great majority of skilled workers still came from abroad. Most of the workers who acquired their skills in this country learned on their own by watching and getting the advice of experienced workers, by sheer persistence, and by trial and error.

An 1865 indenture used by the Pennsylvania Railroad provides one of the first examples of the graduated

*From *Apprenticeship: Past and Present.* Washington, DC, U.S. Department of Labor, 1982.

wage scale paid apprentices. It prescribed 50 cents for a 10-hour day in the first 620 days of training, 60 cents a day in the next 310 days, and 80 cents a day for the balance of the apprenticeship term. A bonus of $124 was paid if and when an apprentice completed training.

In the late 1960's, the starting wage for maintenance-of-equipment apprentices employed by railroads averaged $2.54 an hour -- more than five times the starting wage for 10 hours in 1865 -- and increased to $2.94 during the final period.

The machine age brought rapid advances in production, but working conditions and wages -- especially for apprentices -- lagged behind the times. What it was like to be an apprentice in an industrial plant in 1883 is described by a man who began his career in this way -- Fred H. Colvin, later the editor of the *American Machinist* and a technical consultant and author. In his book, *60 Years with Men and Machines*, he says: "An apprentice in the machine shops of 1883 faced a situation not wholly unlike that of the craft guilds of the Middle Ages. In many cases the boy's parents had to reimburse the shop owner for teaching him the secrets of the trade."

He said of the Philadelphia machine shop in which he worked:

> A revolutionary new system was in effect -- the shop owner actually paid the apprentice wages. He was careful, of course, not to turn the apprentice's head with money. In my own case, I began at the rate of 5 cents an hour for a sixty-hour week; or, to put it more impressively, I was paid $3 in cash every Saturday night ... All overtime was paid at the regular straight-time rate of 5 cents an hour for young apprentices like myself ... At the end of the first month's apprenticeship, the wages were boosted by 16⅔ percent, which meant a half a dollar a week extra in the pay envelope. What with promise of an additional 50-cent raise every six months thereafter, a young apprentice could see himself developing into a substantial citizen if he but lived long enough.

A similar experience was that of John P. Frey, president of the American Federation of Labor's metal trades department for 16 years and a former labor member of the Federal Committee on Apprenticeship, the national body recommending policy to the Bureau of Apprenticeship and Training. He began his career in 1887 as a molder apprentice. In his first year of training, he was paid 75 cents for a 10-12 hour day, 6 days a week. His wage was increased 25 cents a day in his second year and another 25 cents in his third and last year as an apprentice. From the beginning of his apprenticeship, he did practically the same work as helpers who then received $1.50 a day.

But both Fred Colvin and John Frey fared better at the start of their training than some other apprentices of the time. The 1895 indenture of Harley F. Nickerson, who later became a general vice president of the International Brotherhood of Machinists, shows that he worked for nothing during a probationary 3-month apprenticeship period. In the next 9 months, he was paid $3 a week. His earnings from then on were about the same as Covlin's were 12 years before. No agreement was made to teach the youthful Nickerson the trade of machinist, nor was there any commitment on the part of the employer to do anything except pay the rates agreed upon for time actually worked, plus $100 when and if the apprenticeship was completed.

What Legislation Supports Modern Apprenticeship?

The first legislation in the United States designed to promote an organized system of apprenticeship was enacted in Wisconsin in 1911. The law placed apprenticeship under the jurisdiction of an industrial commission. This followed enactment of State legislation requiring all apprentices to attend classroom instruction 5 hours a week. Jurisdiction for this service was placed with the state board for vocational education.

In the 1920's national employer and labor organizations, educators, and Government officials began a concerted effort to bring into existence a national, uniform apprenticeship system. Comprehensive training of ap-

prentices had become a vital necessity in the boom days following World War I. Immigration had been limited; there were fewer skilled workers entering from other countries; however, the industrial and construction business was growing and there was increasing demand for skilled workers.

The combined effort of the various groups led in 1934 to the participation of the Federal Government in the national promotion of apprenticeship. The Federal Government on Apprenticeship, composed of representatives of Government agencies, was appointed by the Secretary of Labor to serve as the national policy-recommending body on apprenticeship in the United States. It was to assume the responsibilities with respect to apprentices and their training under industrial codes formulated by the National Recovery Administration.

In 1937 Congress passed the National Apprenticeship Law. This law, popularly known as the Fitzgerald Act, was enacted "to promote the furtherance of labor standards of apprenticeship ... to extend the application of such standards by encouraging the inclusion thereof in contracts of apprenticeship, to bring together employers and labor for the formulation of programs of apprenticeship, to cooperate with State agencies in the formulation of standards of apprenticeship."

The National Apprenticeship Act reads as follows:

> To enable the Department of Labor to formulate and promote the furtherance of labor standards necessary to safeguard the welfare of apprentices and to cooperate with the States in the promotion of such standards.
>
> *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of Labor is hereby authorized and directed to formulate and promote the furtherance of labor standards necessary to safeguard the welfare of apprentices, to extend the application of such standards by encouraging the inclusion thereof in contracts of apprenticeship, to bring together employers and labor for the formulation of programs of apprenticeship, to cooperate with State agencies engaged in the formulation and promotion of standards of apprenticeship, and to cooperate with the National Youth Administration and with the Office of Education of the Department of the Interior in accordance with section 6 of the Act of February 23, 1917 (39 Stat. 932), as amended by Executive Order Numbered 6166, June 10, 1933, issued pursuant to an Act of June 30, 1932 (47 Stat. 414), as amended.
>
> SEC.2. The Secretary of Labor may publish information relating to existing and proposed labor standards of apprenticeship, and may appoint national advisory committees to serve without compensation. Such committees shall include representatives of employers, representatives of labor, educators, and officers of other executive departments, with the consent of the head of any such department.
>
> SEC.3. On and after the effective date of this Act the National Youth Administration shall be relieved of direct responsibility for the pomotion of labor standards of apprenticeship as heretofore conducted thorugh the division of apprentice training and shall transfer all records and papers relating to such activities to the custody of the Department of Labor. The Secretary of Labor is authorized to appoint such employeees as he may from time to time find necessary for the administration of this Act, with regard to existing laws applicable to the appointment and compensation of employees of the United States: *Provided, however*, That he may appoint persons now employed in division of apprentice training of the National Youth Administration upon certification by the Civil Service Commission of their qualifications after nonassembled examinations.
>
> SEC.4. This Act shall take effect on July 1, 1937, or as soon thereafter as it shall be approved.
>
> Approved, August 16, 1937.

Relatively new standards for registration and equal opportunity have refined and expanded the impact of the law. For example, the Labor Standards for the Registration of Apprenticeship Programs (Title 29 CFR Part 29) sets forth labor standards, policies and procedures relating to the registration, cancellation and de-

registration of apprenticeship programs and of apprenticeship agreements by the Bureau of Apprenticeship and Training (BAT). It also provides recognition of the registration authority of State Apprenticeship Councils or Agencies (SAC). The Equal Employment Opportunity in Apprenticeship and Training regulations (Title 29 CFP Part 30) sets forth policies and procedures to promote equality of opportunity in apprenticeship programs registered with the U.S. Department of Labor and in state apprenticeship programs registered with recognized state apprenticeship agencies. These policies and procedures apply to the recruitment and selection of apprentices, and to all conditions of employment and training during apprenticeship.

Additional Information

For additional information about the history and current make-up of apprenticeship programs, you may wish to read any of a variety of excellent pamphlets published by the U.S. Department of Labor, Bureau of Apprenticeship and Training, as well as several library resources. Specific titles of interest include:

Apprenticeship: Past and Present. (Washington, DC: U.S. Department of Labor, 1982).
Laboring for Independence. (Washington, DC: U.S. Department of Labor, 1976).
The National Apprenticeship Program. (Washington, DC: U.S. Department of Labor, 1980).

Self-Test Exercises

Answer the following exercises and check your answers with those in the Appendix. If you answer at least three of the questions correctly, continue your work in the next chapter. If you score less than three correct, review the material in this chapter.

1. What is the popular name of the National Apprenticeship Act of 1937?

   Answer: _____

2. Apprenticeship is a unique training system because it lets you combine two typically separate ways to learn. What are these two ways to learn?

   a. _____ and

   b. _____

3. Name five benefits you derive from completing an apprenticeship program.

   a. _____

   b. _____

   c. _____

   d. _____

   e. _____

4. Name two characteristics of occupations that generally are defined as apprenticeable.

   a. _____

   b. _____

3. Roles and Responsibilities

Chapter Overview

Purpose:	To insure that each apprentice has a working knowledge of the expectations, rights and responsibilities of the parties involved with apprenticeship -- particularly their responsibilities as apprentices.
Preassessment Score:	Regardless of your preassessement score, work through this chapter.
Prerequisites:	Chapter 1 and 2 of this module.
Resources:	Time--At least 30 minutes to completion. Materials--Pencil.
Performance Statement:	At the conclusion of you work in this unit, you will recall and explain the roles and responsiblities of typical parties involved in apprenticeship.
Performance Measure:	A ten-minute, paper-and-pencil posttest, to be taken after completing the entire booklet.
Standards:	To be successful, you must answer at least 80 percent of the Posttest items.
Activities:	1. Read text, examples and illustrations and commit information to memory. 2. Work questions, examples and problems. 3. Complete and check the Self-test Exercises and Posttest.

Introduction And Objectives

Apprenticeship is a unique and successful training program that provides an opportunity for you to earn and learn through a combination of working on the job and studying in the classroom. It is a formal training system in which your roles and responsibilities as well as those of the sponsor are set forth in a legal contract. You must understand and fulfill the expectations required of you as an apprentice to be successful.

This chapter is about the roles, responsibilities and expectations of apprenticeship. When you have completed your work in this chapter you will demonstrate your understanding by being able to:

1. Recall, list and explain the responsibilities of each party in an apprenticeship agreement.
2. Identify and explain the parts of typical apprenticeship agreements;
3. Explain useful strategies for learning on the job and in the classroom; and
4. Explain the major expectations you must fulfill as a successful apprentice and journeyman.

Principles, Examples and Applications

Role and Responsibilities of Program Sponsor

The role and responsibilities of the program sponsor are extensive. They include designing, admnistering, funding and registering the training program. Program design must adhere to the basic standards for apprenticeship as set forth in federal rules and regulations. Standards provide that the program sponsor ensure the following:

- the starting age of an apprentice is not less than 16;
- there is full and fair opportunity to apply for apprenticeship;
- there is a schedule of work processes in which an apprentice is to receive training and experience on the job;
- the program includes organized instruction designed to provide apprentices with knowledge in technical subjects related to their trade (a minimum of 144 hours per year is normally considered necessary);
- there is a progressively increasing schedule of wages;
- proper supervision of on-the-job training with adequate facilities to train apprentices is ensured;
- the apprentice's progress, both in job performance and related instruction, is evaluated periodically and appropriate records are maintained;
- there is employee-employer cooperation;
- successful completions are recognized; and
- there is no discrimination in any phase of selection, employment, or training.

Each of these standards is critical to the establishment of a quality, effective program. Several of the standards imply additional responsibilities of the sponsor. For example, the standards require that apprentices be provided with at least 144 hours of organized related subjects instruction in addition to a scheduled rotation through various training and production activities on the job. This means that the program sponsor must provide opportunities for apprentices to work on all necessary job tasks and equipment. The rotation must be provided for while maintaining company production and work schedules. In addition to job rotation, the program sponsor also must tie together the classroom related subjects instruction and the on-the-job work and training experiences so that the experiences reinforce learning in both settings. On-the-job and classroom instruction also means that the sponsor must provide for instructors, supervisors, materials and insurances. Such salary expenses, compiled with the costs of insurance, training time, classroom space, and your salary represent a substantial financial investment and responsibility for the sponsor.

Other sponsor responsibilities include record keeping, testing and certification. As you learn skills, the sponsor must arrange for your skills and knowledge to be tested. Some tests will be paper and pencil tests in the classroom, some will be work simulations either on the job or in the classroom, and some will be in the work-production setting. Part of the testing activity includes keeping records of your progress in skills and knowledge development as well as your attendance on the job and in related subjects instruction. The records are necessary

for charting individual progress, for program planning, and to justify awarding of journeyman papers.

An additional sponsor responsibility is drawing and maintaining the apprenticeship agreement. While the agreement is a contract between you as an apprentice and the sponsor, the sponsor is responsible for typing, filling-out, initiating and maintaining the agreement. Be sure to do your part in developing this agreement, including making your suggestions for its development and revision, if necessary, and keeping your copy.

Role and Responsibilities of Apprentice

Your responsibilities as an apprentice are equally important to those of the sponsor because your training will not be successful if you do not discharge your duties faithfully. Your most critical reponsibilities are to fulfill the obligations you pledge to fulfill in your apprenticeship agreement. Specifically, this means that you must be diligent in your efforts to:

a. attend work and related subjects instruction;
b. comply with production, work, testing and training expectations;
c. learn (and practice) the necessary trade skills on the job;
d. learn (and practice) the knowledge and information provided in related subjects instruction;
e. Adhere to work expectations about punctuality, dress, working under supervision, taking directions and production schedules;
f. study materials, information and procedures to insure you know what you are doing on the job;
g. observe appropriate safety requirements in all aspects of apprenticeship;
h. attempt to improve your skills at each opportunity; and
i. follow faithfully the rules of the sponsor for when you work.

In addition, often you will be expected to purchase and learn to use several tools that are critical to your trade. If you attend to these responsibilities, your apprenticeship will be successful and fufilling.

In different companies, different responsibilities will be more important than other responsibilities. However, in general, your most important responsibilities are: (a) safety; (b) attendance and records; (c) diligence in learning the trade; and (d) obeying work rules and expectations.

Safety simply means that you learn and follow accepted safety practices for all aspects of your work/training experience. This includes things like learning and following procedures for equipment and tool use; using approved work procedures for completing tasks; practicing good housekeeping rules in cleaning up the work area and putting away tools and supplies; learning the proper tools to use for each task and using it; and thinking about and reporting hazards you detect. Each of these practices will contribute not only to a successful apprenticeship, but also to a long-term and productive career.

Attendance and records is a second vital area. Nothing makes a sponsor more angry than your absence or continual tardiness. You must come to work *and* attend related instruction every day. If you are really sick, of course you are not expected to come...but do not "lay-out"! Foremen can spot a phoney. More importantly, you might miss learning something that you really need to know. Incidently, apply the same diligence to clocking-in-and-out that you apply to showing up.

A third vital area is attending to your training, both on and off the job. Pay attention, ask questions, practice, and apply information; these are the key activities you *must* attend to. Be especially careful to pay attention and to practice. Your performance of work tasks not only determines how effectively you learn, but also how good a worker you are perceived to be by your supervisor and sponsor. Their evaluation of you in this regard has a major bearing on your long-term employment and advancement in the company.

A fourth vital area is obeying work rules and expectations. You must learn what is expected and required of you in terms of rules like dress, production schedule, record keeping, working under supervision and so forth. Once you learn the rules, follow them. Know that your evaluation and advancement in the eyes of the sponsor are based directly on these factors.

The Apprenticeship Agreement

The apprenticeship agreement is a legal contract that formally specifies the required responsibilities of the sponsor and the apprentice for the term of the apprenticeship. Among the items usually set forth in the agreement are the following.

1. *Definitions*—The key terms used in the agreement are defined. These include the names of the various parties and organizations involved as well as any technical terms that must be explained.
2. *Qualification and Selection*—The agreement states publicly the criteria and process through which the apprentice was selected for the program. Both specific criteria and equal opportunity provisions are included in this section. For example, criteria might include education, prior work experience, a mechanical aptitude and mathematics score, and the evaluation of references.

   This section also usually contains the rules governing granting of prior credit for either work or schooling experiences. Sometimes credit for competency testing also is provided.
3. *Job*—The agreement often states the sponsor's willingness to hire the apprentice. This includes a statement about the employer's desire to provide for continuous employment as well as an indication of the required ratio of apprentices to journeymen on the job. Additionally, the rules concerning layoffs and seniority often are set forth.
4. *Time of Apprenticeship*—Time considerations included in the agreement set forth the starting and expected conclusion date of the term of apprenticeship. Additionally, the specific required number of hours of on the job work and training and the specific amount of time to be spent in related instruction will be written into the agreement. For related instruction this usually means at least 144 hours a year. For on-the-job training it means the number of hours over the several years of apprenticeship that will be spent working and training under supervision. This number can range from 2,000 to 12,000 depending upon the trade.

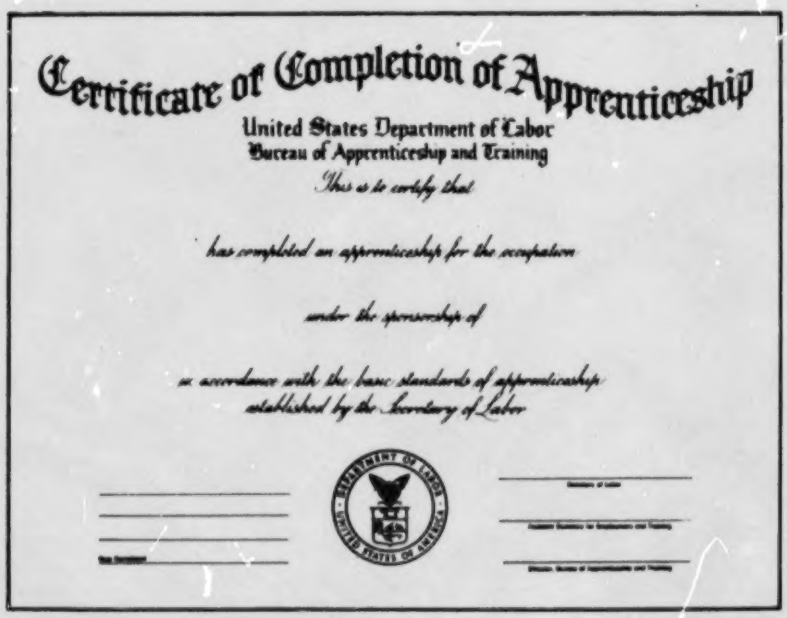
   The time sections of the agreement also set forth the period for probation. During the probationary period, the agreement can be annulled by the sponsor, upon the request of either party, without the formal due process hearing.
5. *Financial Obligations*—The pay schedule for the apprenticeship term, listed by review period (usually every 6 months) is written into the contract. The rate usually is indicated as a percentage of a journeyman's rate. So for example, for the second 6-month period a four year millwright apprenticeship, the agreement might indicate that the apprentice will earn a wage that is 60 percent of the average starting journeyman's rate. Financial obligations also can include the requirement that apprentices purchase certain tools and equipment for their own, private, long-term use by a certain point in the apprenticeship term.
6. *Training Schedule*—In this section of the agreement is specified the most important elements of the training plan. These include statements that state the: (a) length of term of the apprenticeship; (b) hours to be worked by the apprentice; (c) overtime regulations; (d) provision and expectation for related subjects instruction; (e) length of the probationary period; and (f) specification of the rotation schedule across job tasks to insure that apprentices gain experience in all necessary work tasks and equipment.

Often the portion setting forth the job rotation schedule will indicate the general work activities and tasks that must be mastered as well as the appropriate amount of time to be spent on the set of activities. Usually a specific timetable is not set forth although the approximate number of total hours on each process are indicated. In terms of related instruction, often the general subject matter and the approximate amount of time to spend on that subject matter is set forth. For example, related instruction for an apprentice mason during the first year might include the following subject areas and approximate instructional times: (a) math - 40 hrs; (b) blueprint reading - 40 hours; (c) introduction

to apprenticeship - 4 hours; (d) working in organization - 20 hours; (e) basic safety - 40 hours. Usually the order and timing of subject matter is not set forth in the agreement.

7. *Examination, Evaluation and Advancement Procedures*--Usually the agreement indicates when and how apprentice progress will be evaluated within the training time. This means the mechanism of formal review, together with the time schedule for such review and the records that will be inspected will be specified. The review is one way of insuring periodically that both parties are fulfilling their parts of the agreement. This means, for example, as an apprentice printer, imagine that your job rotation in training calls for working four months on an offset press, four months on a Heidleberg Press, and four months on bindery machines during the second year. However, at your review, 6 months into the second year you have only worked on bindery machines. As this is printed out, both your agreement and your training schedule will be altered in order to get back on tract.
8. *Safety*--The agreement usually will indicate the specific kinds of safety training and the time when such training will occur. This emphasizes the importance of such training.
9. *Record Keeping*--Agreements provide an indication of what records will be maintained and by when concerning your progress in your apprentice term. Progress means time spent in training (on the job and in related instruction); time and skills in various tasks and with various equipment on the job; skills and knowledges required on the job and in the classroom; and attendance.

   Record keeping culminates with the granting of journeyman papers and certificates of completion. The process for requesting and awarding such certificates usually is written into the agreement. An example of one such certificate as issued by the Bureau of Apprenticeship and Training is illustrated below. Record keeping provisions also usually spell out licensing procedures, roles and responsibilities.



Certificate of Completion of Apprenticeship

United States Department of Labor
Bureau of Apprenticeship and Training

This is to certify that

has completed an apprenticeship for the occupation

under the sponsorship of

in accordance with the basic standards of apprenticeship established by the Secretary of Labor

10. *Due Process*--Agreements specify the procedures for disciplining apprentices or for recommending cancellation of apprenticeship agreements if they fail to fulfill their obligations. The due process

clauses/provisions also explain how disputes and claims about the program, as registered by apprentices, are filed and dealt with. The appeals process is either outlined, or listed as a reference. Often the due process sections of the agreement also contain directions for modifying the agreement as well as the rules and regulations for apprenticeship. Modifications sometimes are necessary as the law changes and/or as new technology is introduced into the manufacturing process. For example, many apprenticeship agreements in manufacturing will be modified as computer assisted design and manufacturing becomes even more widespread across jobs/trades.

Learning On The Job And In Related Subjects Settings

Even when the roles and responsibilities of all parties involved in apprenticeship are spelled out in the agreement or contract, difficulties can still arise. Usually these problems result from difficulties in communication, difficulities in working in organizations, or difficulties in learning. Other booklets in this set address communication and to working in organizations. The remainder of this chapter is devoted to learning on the job and in related subjects instruction.

Learning on the job

Learning on the job requires you to use the same basic strategies that you can use to learn in a classroom. Specifically, you must pay attention, seek information, and practice/apply information. On the job, paying attention means listening to foremen, supervisors and other journeymen who are more experienced than you are and who are giving you directions. Be willing to accept and use their suggestions and directions. Also accept their criticism as constructive criticism; it is offered as a means of improving your skills rather than embarrassing or demeaning you. Paying attention also means watching and helping experienced journeymen complete tasks on the job. You will learn a great deal through observation if you pay attention to detail. Paying attention also means that you conform to behavior and job expectations concerning dress, punctuality, work routine, work rate, clean-up and getting along with other workers. In general, your self-confidence, your enthusiasm for your work and your pride in your products also fall into the category of paying attention.

Seeking information means asking questions, observing workers, and reading all available written materials. If you do not know something, it is better to ask than to make a mistake that costs the sponsor money and time. Do not be hesitant to ask someone who knows how to do something. It is perhaps the most effective way for adults to learn.

If, when you are asking for directions, the responding worker demonstrates how to do something, you get not only a verbal answer, but also one you can watch. Pay close attention to demonstration and to other work processes that you can watch. This is an extremely effective way for adults to learn. Things to watch for include the following:

- What is done (activities) in what order?
- What tools are used?
- How are tools used?
- How do the parts fit together?
- What signals the completion of steps?
- How do you know if you are finished?
- How do you know if what you did is correct?

You must also seek written information. Pay attention to the written materials in related studies and to shop materials used on the job. Also read company and union policy manuals and information. Each will help you to be a more effective worker.

Practicing and applying information means trying out in real settings what you think you know. Such trial and error learning is another effective way adults learn. You must practice to be competent. You must try for yourself what you have observed and read before you really know how to do it. Do not be bashful. Each time you try something, you will learn and will become more proficient. Additionally, remember, you are paid to work. Your work is practice and refinement of the skills you are learning.

Learning in Related Subjects Instruction

Learning in related subjects requires you to use the same basic strategies that you use to learn on the job, except with a greater emphasis on reading and studying. Remember, related instruction as part of apprenticeship training is provided for in the rules and regulations of the National Apprenticeship Act. The Standards require that a minimum of 144 hours per year of apprenticeship training be provided to each trainee in related and supplementary subjects. This period of time can be increased in the United States by trade and craft standards if content warrants the increase. Some industries require as much as 200 to 300 hours yearly in related subjects study by apprentices.

The content of related subjects instruction, like the number of hours required, varies by trade or craft. In general the subjects taught include:

a. theory, principles and technical knowledge needed on the job;
b. auxiliary information that assists a worker to better accept and discharge his or her responsibilities;
c. occasional manipulative skills that are important to the craft or trade but are not provided conveniently in the apprentice's on-the-job training.

Often this means that related subjects instruction includes the principles, concepts and applied information that you must know and use from subject matter such as mathematics, general physical sciences, safety, basic measurement, and sketching/blueprint reading. Such information is in addition to study of trade-specific materials and work processes and procedures. Related subjects instruction helps to ensure that you can communicate effectively on the job, can work well in organizations, and know about the apprenticeship system. However, regardless of the trade, craft or situation, the subject matter is current to job demands, practical, applied and directly useful in working in the craft or trade.

Related subjects instruction is an important portion of the apprenticeship training system. Overtime work is not permitted if it interferes with related instruction attendance. More importantly, in order to earn journeyman certification, you must attend *and* successfully complete the program of related studies. While you may not always be enthusiastic about attending in the early stages of training, you are encouraged to take the instruction seriously. In those occasional instances when you fail to fulfill your related subjects responsibilities, sponsors are *authorized and required* to take appropriate disciplinary action. Conversely, your advancement in pay grade and responsibility is based in part on your performance in related instruction.

While some industries have created their own industry-specific day-time, paid, related subjects instructional program, most related subjects instruction is provided in the evening through programs that neither pay apprentices for time nor provide formal school credit. Frequently, instruction is offered in conjunction with public secondary and postsecondary education organizations. Instruction is provided in a variety of settings including typical classrooms; shops or laboratories; the work place, the library; the training facility; or the union hall. Sometimes, particularly in rural areas, related instruction takes place in the apprentice's home through independent study arrangements or correspondence courses of equivalent value to other courses of study.

What you need to remember about related subjects instruction is that it is not just like the school you used to attend. It is applied information that is important to your career and to your future. Pay attention and learn.

Paying attention in related instruction means attending class regularly, listening and watching. You must want to learn in order to do so. You must take the subject matter seriously. You must listen to try to understand what the instructor says and demonstrates. As with the job, you must be punctual and must observe the rules and routines set forth for the class.

Seeking information associated with related subjects instruction takes more effort on your part than does seeking information on the job. You must ask questions if you do not know or understand something. Equally important, you must read and study. You will find your reading easier if you follow several simple suggestions including:

1. Decide why the reading is important and what you expect to learn from doing it. How does the reading fit with what you are learning and doing on the job? What information is covered in the materials?
2. What do you expect to remember from reading the material? How does the information fit with what you already know? What are the key points to remember? What kinds of examples that relate to this material can you find from your work?
3. How do you feel about the reading? When will you do the reading? Will you do it quickly or slowly? What kind of schedule must you keep to finish it on time?
4. In terms of the actual reading process, first skim the material and ask yourself questions about the materials you looked over. See if you can identify the major points. Second, read the material carefully. Note each major point and how they fit together. If you encounter problems in your reading, stop to look up words or seek additional information. Third, after you complete your reading, review the materials. Pay particular attention to the major points and to the examples that illustrate these points. Also be sure to answer practice questions and application or self-test exercises included in the text. Again, if there is something you do not understand, reread and ask!

In addition to reading, you also must study related subjects material. Several techniques that will help you to study effectively include:

1. *Keep up with assignments.* Do the work that is expected each day and week. Avoid getting hopelessly behind. More importantly, if you keep up, you will see a better association between what you are studying and what you are doing on the job. One strategy for helping you to keep up is to make a weekly schedule of things to do and when to do them. Keep up with the schedule. Continue studying until you complete a task and can mark something off your list. This also helps you to keep track of assignments and assists you to set realistic goals. Initially allow more time than you think you will need to do a job.
2. *Find a standard place and time to study.* Set aside a space at a desk or table and spend a few minutes each day in that spot doing your work. Further, if you can use about the same time period each day doing the work, you will find it easier to concentrate and to get things done.
3. *Concentrate.* Start by spending a few minutes each day rereading the major points from previous, associated lessons. Then, as you work through new materials, avoid distractions. Avoid the temptation to get a drink or snack or watch T.V. Use your time constructively and try to finish your task as soon as possible. Try to avoid studying at times when you are very tired or worried. However, do not put off studying waiting for a ime when it feels "right." Also, when studying avoid daydreaming, physical discomfort and other distractions.
4. *Do your best.* All anyone will ask of you is that you do your best. Set realistic goals and work to achieve them. Do not sluff-off work or quit just because you do not want to do it. Make an honest effort. You will find that you can learn most things.

Applying information means working through the problems and questions, reviewing the information, seeking samples on the job, and looking to apply the instructions on the job. You, your related instructor and your job supervisor must work on these together.

Additional Information

For additional information about the roles and responsibilities of apprenticeship, contact your state or federal Bureau of Apprenticeship and Training. there are many information sources available through these agencies that provide excellent information on these subjects. In terms of studying and reading, you will find a variety of sources available in almost any library.

Self-Test Exercises

Answer the following questions and check your answers with those in the Appendix. If you missed any of the questions, review the materials in this chapter. If you successfully completed the exercises, take the Posttest in the Appendix.

1. List four techniques to improve your reading.

   a. _____

   b. _____

   c. _____

   d. _____

2. List the four most critical responsibilities of apprentices.

   a. _____

   b. _____

   c. _____

   d. _____

3. What does the Term of Apprenticeship section of a typical agreement include?

   Answer: _____

   _____

4. Appendix

Answers To Pretest

1. Before dawn of written history
2. a. Combines on the job and classroom training
   b. Combines earning and learning
3. Any three of the following:

   a. Develop and ensure supply of skilled workers.
   b. Increase worker productivity.
   c. Lessen need for employee supervision by developing pride in work and accuracy.
   d. Attract capable people to the craft.
   e. Control the number of people entering trade, the wages, and the skill levels.
4. The National Apprenticeship Act of 1937.
5. Between 700 and 800.
6. a. Safety
   b. Attendance and records
   c. Diligence in learning trade
   d. Obey work rules and expectations
7. A legal contract in which the roles and responsibilities of each party are set forth. It is a contract signed by all parties.
8. It is the financial obligation set forth in the agreement that specifies the wage rate for each progressive portion of the apprenticeship term.

Answers To Self-Test Exercises

Chapter 2: The Apprenticeship Training Program

1. The Fitzgerald Act
2. a. Work on the job
   b. Classroom study
3. Any five of the following:

   a. Gain excellent and varied skills.

b. Receive regular, guaranteed wage while training.
c. Learn to work in harmony with different types of trade/craft people.
d. Learn to work in company or organization.
e. Increase employability and economic security.
f. Learn to work in productivity plan.
g. Achieve recognition from peers and sponsors as a skilled craftsperson.

4. Any two of the following:

a. Skills learned primarily through combined on-the-job and related instruction.
b. Requires at least 2000 hours of work experience plus instruction.
c. Requires manual, mechanical and technical skills practiced industry-wide.
d. Involves body of skills applicable throughout industry.
e. Does not involve only selling, managing, clerical or professional activities.

Chapter 3: Roles And Responsibilities

1. a. Decide why reading is important and what you expect to gain.
   b. Think about what you expect to remember in terms of major points.
   c. Identify how and when you will read.
   d. Skim, question, read carefully, review materials, do review/questions.

2. a. Safety.
   b. Attendance and records.
   c. Diligence in learning trade.
   d. Obeying work rules and expectations.

3. Time considerations including:
   a. Start and completion date of apprenticeship term.
   b. Number of hours of training/work in term.
   c. Amount of time to be spent in related instruction.
   d. Period of probation.

Posttest

Directions: Answer the following questions and check your answers with those on the next page. Score yourself using the instructions at the end of the answer sheet.

1. What are the four most critical responsibilities of an apprentice?

a. _____

b. _____

c. _____

d. _____

2. What is the legal effect of the apprenticeship agreement?

   Answer: _____

3. In what two ways is the apprenticeship system unique as a training system?

   a. _____

   b. _____

4. Name four personal benefits you will derive from participating in apprenticeship.

   a. _____

   b. _____

   c. _____

   d. _____

5. Check each item that is a "cost" in an apprenticeship program.

   a. Salary of instructors and supervisors
   b. Tools you must buy
   c. Things you do not do because you choose to be an apprentice
   d. Lost production time to training
   e. Cost of training materials and supplies
   f. Program administration time and records

6. Name two characteristics of trades considered apprenticeable

   a. _____

   b. _____

7. Explain what job rotation means.

   Answer: _____

8. List four types of information usually included in the Training Schedule of the Agreement.

   a. _____

   b. _____

   c. _____

   d. _____

9. Learning on the job and in the classroom each involve three major activities. What are they?

   a. _____

   b. _____

   c. _____

10. Suggest two strategies for improving your study skills associated with "keeping up with assignments."

    a. _____

    b. _____

Answers To Posttest

1. a. Safety.
   b. Attendance and records.
   c. Diligence in learning trade.
   d. Obey work rules and expectations.
2. A contract that binds all parties to the agreement.
3. a. Combines on-the-job and classroom-based training.
   b. Combines earning and learning.
4. Any four of the following:

   a. Gain varied skills and experience in all aspects of trade.
   b. Learn to work in company.
   c. Learn to work in harmony with different types of craftspersons.
   d. Receive a guaranteed, regular wage.
   e. Increase employability and economic security.
   f. Learn about/participate in productivity plan.
   g. Receive recognition from peers and sponsor as skilled craftsperson.
5. All six items should be checked.
6. Any two of the following:

   a. Skills learned through combination of on-the-job and related instruction.
   b. Requires at least 2000 hours of work experience and related instruction.
   c. Involves manual, mechanical or technical skills practices industry-wide.
   d. Involves body of skills practiced industry-wide.
   e. Does not primarily involve only selling, managing, clerical or professional.
7. Job Rotation--The Listing of job activities and the approximate time on various activities for the apprenticeship period.
8. Any four of the following:

   a. Length of term
   b. Hours to be worked
   c. Job rotation schedule
   d. Overtime regulations
   e. Provision of related instruction
   f. Length of probationary period
9. a. Paying attending
   b. Seeking information
   c. Practicing and applying information
10. Any two of the following:
    a. Avoid getting hopelessly behind
    b. Make a schedule
    c. Continue studying until you have finished
    d. Set realistic goals and allow enough time

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Scoring: The total possible points on the posttest in 20. You must score 16 points to pass. Review your answer sheet, question by question and calculate your point total according to the following directions:

Question #1. Each of the four answers counts 1/2 point.
Question #2. The answer is worth one point.
Question #3. Each of the two answers counts one point.
Question #4. Each of the four answers counts 1/2 point.
Question #5. Each of the six answers counts 1/2 point.
Question #6. Each of the two answers counts one point.
Question #7. The answer is worth one point.
Question #8. Each of the four answers counts 1/2 point.
Question #9. Each of the three answers counts one point.
Question #10. Each of two answers counts one point.